

## Supplementary Information

for

### **Controllable synthesis of hierarchical Bi<sub>2</sub>CuO<sub>4</sub> microspheres in aqueous solution and their high efficient visible-light-driven photocatalytic activities**

Yafang Zhang<sup>1,§</sup>, Guangfang Li<sup>1,§</sup>, Huiping Zhao<sup>1</sup>, Fan Tian<sup>1</sup>, Shengqiang Xiao<sup>2</sup>, Rong Chen<sup>1\*</sup>

1. Key Laboratory for Green Chemical Process of Ministry of Education and Hubei Novel Reactor & Green Chemical Technology Key Laboratory, Wuhan Institute of Technology, Xiongchu Avenue, Wuhan, 430073, P.R. China

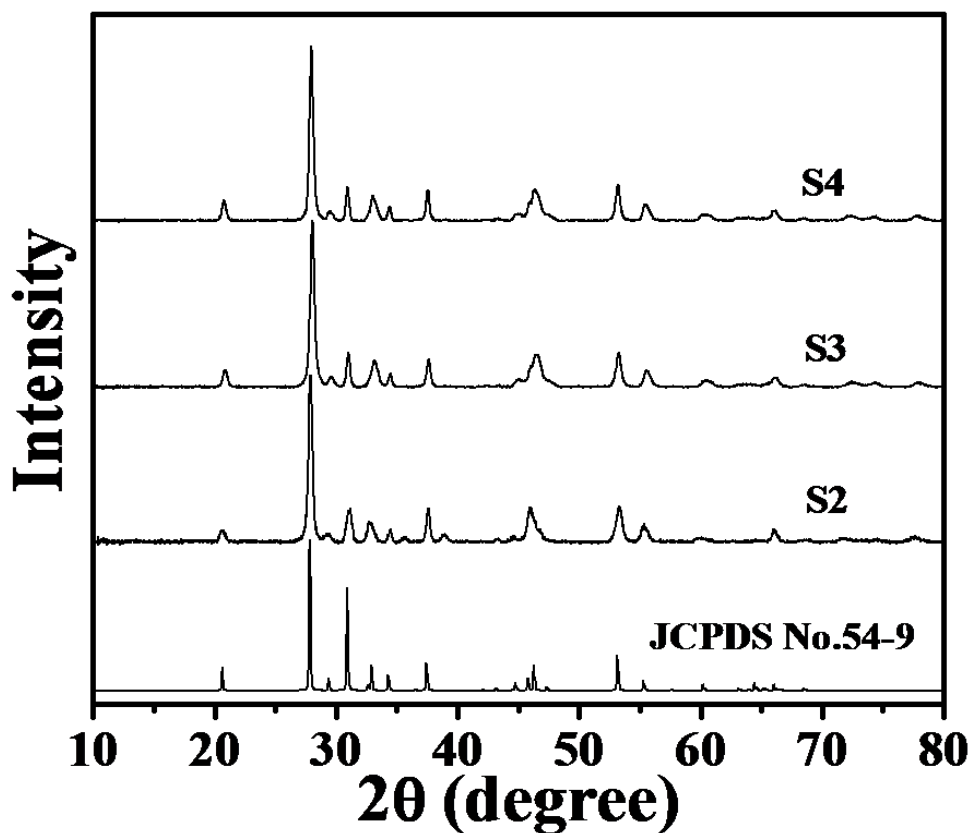
2. State Key Laboratory of Advanced Technology for Materials Synthesis and Processing, Wuhan University of Technology, Luoshi Road, Wuhan 430070, P.R. China

§ These authors make equal contribution to this work

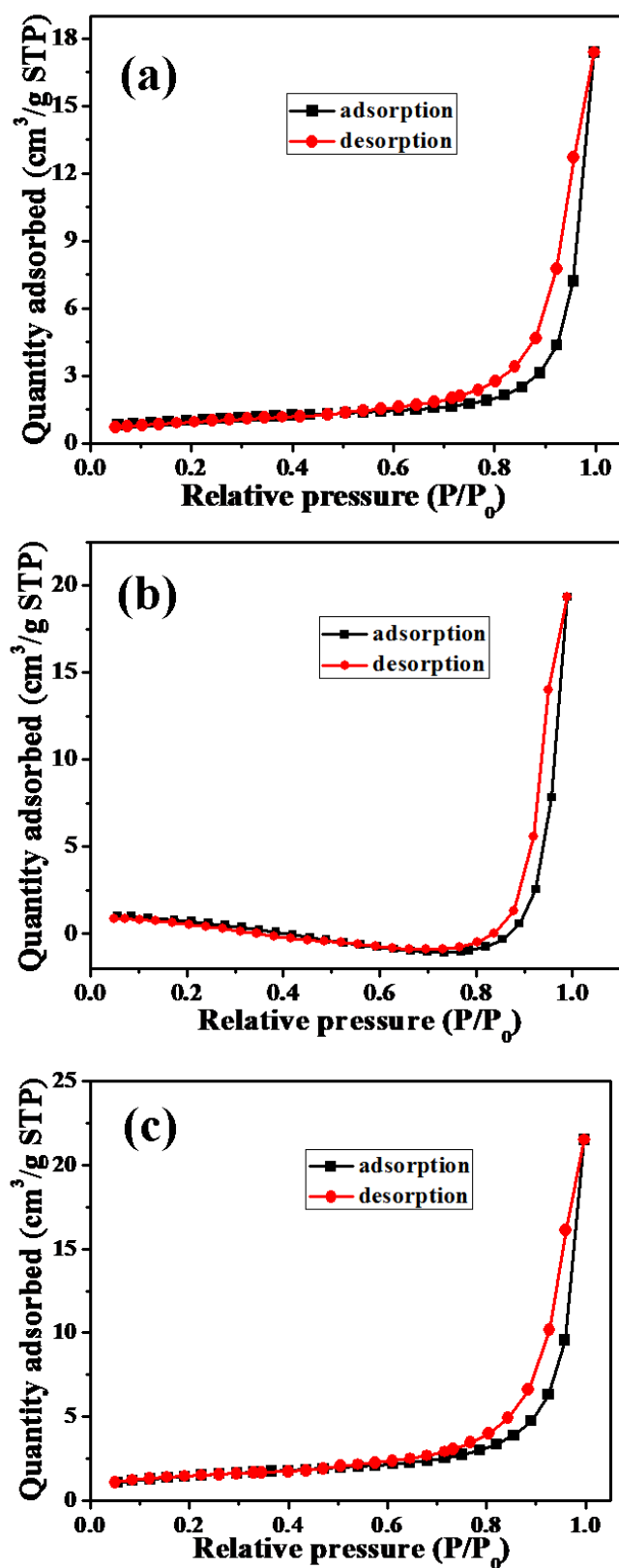
\* Corresponding author: Prof. R. Chen, E-mail: rchenhku@hotmail.com

Tel.: (+86)13659815698; fax: (+86)2787195671.

**Fig. S1** XRD patterns of  $\text{Bi}_2\text{CuO}_4$  samples obtained at different hydrothermal reaction time in the presence of 2 M KOH: (a) 1 h, **S2**; (b) 3h, **S3**, 9 h, **S4**.



**Fig. S2** Nitrogen adsorption–desorption isotherms of the products prepared in KOH solution with different concentrations (a, S6; b, S7; c, S8).



**Fig. S3** UV-vis absorption spectra of the RhB solution ( $1 \times 10^{-5}$  M, 100 mL) in the presence of 0.1 g of different  $\text{Bi}_2\text{CO}_3$  microspheres under visible light irradiation: (a) S1; (b) S6; (c) S10 and (d) S11, respectively.

